USAF HISTORICAL STUDIES: NO. 24

COMMAND OF OBSERVATION AVIATION:

A STUDY IN CONTROL OF TACTICAL AIRPOWER

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Foreword

This short monograph is concerned only with the story of the command and control of that category of airpower which, prior to 1943, was called "observation." It recalls the problems encountered by observation units in the period prior to World War II when they were first assigned and then attached to ground units. It shows how such a system of control broke down in North Africa when it first met the tests of modern air warfare. It clearly demonstrates the reasons why short-range, ground-controlled "observation" had to be supplanted in 1943 by unified, centrally-controlled "tactical air reconnaissance." This monograph was written by Dr. Robert F. Futrell of the USAF Historical Division, Research Studies Institute, Air University, Maxwell Air Force Base, Alabama.

Like other Historical Division studies, it is subject to revision, and additional information or suggested corrections will be welcomed.

Contents

Introduction

DURING THE FIRST year of the war in Korea the United States Eighth Army, although numerically weaker than the initially met North Korean Peoples' Army and the subsequently employed Chinese Communist Forces, so benefited from the strong support rendered to it by the Far East Air Forces that it was able to weather the series of crises posed by what seemed to be overwhelming Communist ground attacks. According to the mass of testimony the air attacks launched by the United Nations air forces blunted the North Korean and Chinese assaults, successfully interdicted the flow of Communist supplies to the battlefield and, during the periods of all-out ground warfare, destroyed a majority of the enemy's equipment and troops. The Far East Air Forces also maintained air superiority over the Korean battleground, thus permitting the Eighth Army to maintain its ground defenses and to maneuver at will without the danger of enemy air attack

Despite the exceptional circumstance of the freedom of his forces from enemy air opposition, a former commander of the U.S. X Corps has expressed dissatisfaction with the manner in which airpower is applied in "modern battle." He questioned the wisdom of the "preconceived doctrine" whereby close-support effort is assigned at a field army-tactical air force joint operations center after discussion of aircraft availability versus army-wide need by representatives of the field army and tactical air force. It is instead his belief that air elements should be "allocated" either to corps or divisions. The primary mission of air units so allocated would be the close support of ground troops, and the pilots of such units would benefit from periods of infantry service.[1] In December 1950, with the Korean experience in mind, the Chief of Army Field Forces expressed the need for a specially designed close-support aircraft: "The aircraft which is to provide close tactical support," he said, "should be designed specifically for that mission and not be compromised by a primary requirement to engage in air to air battles." The plane he described would be all-weather, capable of a 3000-foot take-off, and have enough fuel to remain over the battle area for at least two hours. If it required protection from enemy fighters, the support plane was to be escorted by Air Force jet fighters.[2]

The views of these high-ranking Army officers on tactical aviation are reminiscent of the early years of World War II, when commanders interested in observation aviation were seeking the most useful means to control, command, and use it. Of all the elements of tactical airpower, none was so intimately related to the ground force mission as "observation aviation," and prior to 1941 observation squadrons were assigned to the ground forces. The history of observation under ground force control, of its transfer to the Army Air Forces, and of the eventual reorganization of observation and its redesignation as reconnaissance carries lessons for those military leaders pondering the best means to command tactical airpower in the 1950's.

CHAPTER 1

OBSERVATION BETWEEN TWO WORLD WARS

"ACCEPTING the concept that the Army Air Corps is an integral part of the Army," wrote Brig. Gen. H. H. Arnold in August 1937, "it is evident by virtue of the fact that short range observation is . . . an operating force for the ground forces that Corps and Army observation must be considered a more integral part of the Army organization even than other classifications of aviation."[1] That observation was a more integral part of the Army was a concept which traced back to World War I and the years immediately thereafter. "Observation Aviation is an auxiliary arm," read the pertinent Air Corps Tactical School manual in 1926. "It is included as an integral part of armies, corps and divisions; and as such must operate in close liaison with all arms."[2] Similar phrases appeared in the editions of the Tactical School manuals as late as July 1937,[3] and in September 1939 the War Department formally approved an Air Corps Board study concerning the functional organization of "those reconnaissance, photographic, and observation elements, both heavier and lighter than air, that are assigned for use as organic parts of the field army and smaller mobile ground units."[4] In all statements of doctrine between the two world wars, observation aviation was considered an integral and organic part of the ground forces.

Although the doctrine remained unchanged, there were certain organizational changes in observation aviation units during the period between World Wars. During the early 1920's the observation establishment was very large, probably as a result of the importance of aviation's observation role during World War I. In tables of organization dated 5 April 1926, ground units were permitted the following observation aviation: the division air service comprised a headquarters detachment, an observation squadron with thirteen aircraft, and photo and medical sections; the corps air service comprised a headquarters detachment, one observation group (with headquarters, two observation squadrons, a service squadron, and a photo section), one balloon group, a communications section, and attached chaplains and medical personnel; an army had assigned to it one observation group (with headquarters, four observation squadrons, two photo sections, and a service squadron), and attached chaplains and medical personnel; finally, GHQ observation comprised a balloon brigade and an observation group. This observation aviation operated directly under the command of the particular ground echelon to which the air units were assigned; but at army, corps, and division levels Air Corps officers served both as commanders of assigned air units and as the staff air officers for the ground force commanders.[5]

This substantial observation establishment was reduced by War Department actions designed to modernize the ground forces. On 25 November 1929 the War Department curtailed sharply the allocation of observation units to army and corps[6] and, in the early 1930's, cut back the aviation of an infantry division to a division air officer on the commander's staff and a small enlisted force.[7] By 1936 an observation group—now standardized with a headquarters, four observation squadrons, and a service squadron—was assigned to each army and corps. The Air Corps Board, which was called upon to recommend a tactical utilization of this force, planned to attach

one of the squadrons from the corps observation group to each front line division in action. These arrangements, stated the Air Corps Board, would permit a three division corps to retain one observation squadron for its own use; the scheme would provide a satisfactory organization so long as a given corps did not contain more than four divisions and did not operate more than three of them in the battle line at any one time.[8]

Field tests held between 1937 and 1939 caused the War Department General Staff to eliminate the aviation complement of the new style "triangular" infantry division. Its reasoning was somewhat as follows: in order to increase the efficiency and mobility of a newly conceived "triangular" division its over-all strength would be reduced from 22,000 officers and men of an old "square" division to some 15,000 officers and men. The smaller divisions would seldom be expected to operate independently of a corps, and, in effect, the corps would become the principal ground task force organization.[9] Although the Air Corps protested that division air officers and their staffs would be needed to direct such observation squadrons as might be attached to the triangular divisions, the final decision to delete the aviation section from such a division headquarters was taken without reference to the Chief of Air Corps.[10] Air Corps planning still contemplated the attachment of an observation squadron to a triangular division when it went into combat, although General Arnold suggested that the new divisions might be too small to warrant more than a flight or at most two flights of observation aviation during either training or war.[11] Reorganizations of Regular Army infantry divisions did not effect the National Guard infantry divisions, which would be mustered into the Federal service with attached observation squadrons and division air service components.

Following these reorganizations of the 1930's the observation aviation establishment in 1939 contemplated the assignment of observation groups to army and to corps. One balloon group was also allocated to each corps, with the plan of employment visualizing attachment of one balloon squadron to each regiment of corps artillery, leaving one balloon squadron for corps use. The corps and army observation groups were to comprise four squadrons, each with thirteen aircraft (ten observation planes and three liaison types). Including headquarters aircraft, the total group strength would be 42 observation and 13 liaison planes.[12]

These tables of organization and plans for mobilization were highly theoretical when viewed in the light of actual Air Corps observation strength during the 1930's. In 1936 only eight corps and army observation squadrons were located in the continental United States: the 39th was at Kelly Field as a part of the Advanced Flying School, the 86th was at Maxwell serving the Air Corps Tactical School, while the 16th was divided between five stations (Langley, Benning, Pope, Riley, and Post) serving various Army schools. This distribution left only five corps and army observation squadrons acting as such: the 12th and 22d at Brooks, the 15th at Scott, the 91st at Crissy, and the 97th at Mitchel.[13] Regarding this number of squadrons as insufficient, the Air Corps asked authority to create three additional observation squadrons, so as to provide one squadron for each of the nine Corps areas, and it also recommended activation in each Corps area of the group headquarters called for in doctrine. Upon mobilization, the groups were to be filled by National Guard observation squadrons. This balanced observation program of 1936 also called for the retention of the 1st Balloon Squadron at Post and the 2d Balloon Squadron at Pope, and the formation of a third lighter-than-air squadron at Fort Lewis.[14] A part of the Air Corps request was filled during the fiscal year 1938, when three additional observation squadrons—the 1st at Riley, the 3d at Langley, and the 82d at Moffett—were activated and the 3d Balloon Squadron was established at Fort Lewis. Although each Corps area in the United States was thus provided with an observation squadron, the

Air Corps was evidently not permitted to establish a group organization for each of these Corps areas.[15]

Both by the doctrine and by the actual practice of the 1930's the observation squadrons were considered an integral part of the various Corps areas and service schools to which they were assigned, and responsibility for their operations and training belonged to the corps or school commander, with advice and assistance from the corps air officer Although the Air Corps could make suggestions to the War Department as to the training and employment of the observation squadrons, the Chief of Air Corps had no jurisdiction of any importance over the units, other than the routine responsibility for providing them with personnel and equipment. Execution of War Department training directives and other announced policies, moreover, depended upon nine different Corps area commanders, each acting on his own initiative. As Maj. Gen. George H. Brett, Chief of Air Corps, viewed it in June 1941, the observation squadrons had long been "more or less orphans."[16]

In the absence of funds for large scale air-ground maneuvers in the period prior to 1939, tactical doctrines for the employment of observation aviation were little more than rationalized modifications of the operational practices of World War I. Thus the Air Corps Tactical School manual of July 1937 gravely illustrated its orders section by portraying the First U.S. Army situation in September 1918.[17] This same manual announced the zones of responsibility of army, corps, and division observation aviation to be coterminus with the ground unit zones of responsibility, 4 to 5 miles behind enemy lines for division observation, 10 to 12 miles for corps observation, and 25 to 50 miles for army observation. Army observation missions were to be executed well within enemy territory to cover the rear areas, flanks, and front of the hostile force. Where the actions of the army were based on relatively distant reconnaissance, the operations of the corps were dependent upon information gained from close reconnaissance. Corps observation missions were much more intensive and, as the ACTS manual stated, involved "continuous day and night observation of the corps zone of operations . . . for the purpose of procuring information related to the location of hostile advance forces, their strength, composition, defensive organization, supply arrangements and detraining points, and information of the terrain features which are not covered by existing maps." When contact between two main hostile forces was imminent and the division zone of responsibility had been defined, division aviation was to take over intensive aerial reconnaissance of the actual combat area, furnishing "continuous up-to-date information of the enemy and of the terrain." Ground and balloon observation, within the limits of vision, would furnish much of the information of hostile activities in the forward areas. Division observation aviation, however, would be prepared to observe fire for artillery when targets were defiladed or visibility poor.

According to doctrine tactical observation missions would normally be flown by single aircraft, although formations of three to five airplanes might operate to advantage when it was vital to secure information by a "short dash into enemy territory." Radio, cautioned the ACTS manual, would be used only in reporting information of immediate necessity or where there was a probability that the observation plane might fail to get back with its report. Messages would ordinarily be dropped near the command post of supported organizations. The altitude of observation missions would be discretionary with the pilot and observer who would be expected to fly at the height necessary to get the desired information and at the same time expose themselves as little as possible. Identification of enemy troops by their uniforms and equipment might require the observation plane to descend as low as 500 feet, at which height, the ACTS manual gravely warned, "it will often be necessary for the observer to make a number of trips over the same terrain to insure that he had not missed some important detail."

As a necessary security precaution corps and army observation units were to be based at airdromes from 40 to 80 miles behind front lines. All squadrons would normally operate from the corps observation group base airdrome because they were not equipped for individual operation. Even when a corps squadron was attached to a division it would fly from the group airdrome, but under especial circumstances a squadron could be augmented with group personnel and equipment and moved to a separate airfield "With our modern airplanes capable of speeds of 200 miles per hour and a range of 600 miles," stated an Air Corps lecturer at Fort Leavenworth, "the fact that the airplanes are 80 miles back of the front will not handicap the operation of the unit."[18]

In a combat situation the necessary instructions to observation units assigned to a ground command were to be contained in the aviation sub-paragraph of the command's field order, in aviation annexes to those orders, and in direct written or oral orders from the army or corps chief of aviation to air units under his respective command. The army chief of aviation, as a staff officer, prepared the aviation sub-paragraph and annex of the army field order, designating therein the area to be reconnoitered, information to be gained, to whom the information was to be furnished, when missions were to be performed, and other essential information. The army observation group commander issued the necessary execution orders and the squadron commanders, in turn, issued such detailed instructions as were needed for the actual missions. Similarly, the corps chief of aviation, acting as instructed in the army field order, wrote the necessary aviation subparagraph and annexes to the corps field order. Corps observation group and squadron commanders issued the orders to put the corps observation orders into effect. Where observation squadrons were attached to divisions, they would receive their orders either directly from responsible division officers or through an aviation subparagraph in the division order.

Few aviation problems of the 1930's were so fraught with difficulty as the procurement of an airplane able to meet the needs of the doctrinal concepts of observation. According to the division of responsibilities for such matters, the Office of Chief of Air Corps was charged with the procurement of air materiel, but observation specifications had to be coordinated with other using arms and services of the Army. Until the early 1930's most observation aircraft were the Curtis O-1 and Douglas O-2 models, both being twin-place planes with maximum speeds of 145 miles per hour, fuel capacity for six hours flight, and a service ceiling of 15,000 feet.[19]

First deviations from the single type observation plane came in 1926 when the Air Corps recognized that an army observation type might need superchargers and extra gasoline capacity to get a greater penetration range. Four years later the Air Corps stated the requirement for a three-place observation plane with twin-engines, superchargers, and an endurance of from five to seven hours, this type of plane to be used especially for GHQ and Air Force observation.[20] In 1936 the designation "long range multiple engine observation airplane" was changed to "reconnaissance airplane," and the Air Corps so began the process of segregating observation into two types: "reconnaissance" for the Air Corps and "observation" for the ground forces.[21] According to the mission definition, reconnaissance aviation would penetrate beyond the 50 mile range which was the responsibility of army observation. During the late 1930's the Air Corps established the decision that the "Air Force Observation (Reconnaissance) Aircraft" could best be the same type airplanes with which its bombardment units were equipped, substituting fuel for bombs when maximum range was required.[22] Later this type of reconnaissance was replaced by long-range fighter types, modified for photography.

The establishment of service characteristics of a corps and army observation plane was a more difficult matter, involving as it did the preferences of the various arms and

services. Characteristics of a type of observation aircraft apparently best suited for corps and division employment were formalized for experimental purposes in December 1934: a top speed of 200 miles per hour, a 20,000 foot ceiling, and a maximum landing and take-off run of 1,500 feet to clear a 50-foot obstacle. A design competition brought forth the three-place North American O-47 which was subsequently purchased in large numbers as the most efficient aircraft for corps and division use. Yet the O-47 was a heavy plane, necessitating some form of prepared landing surface; it was not especially maneuverable, and it lacked sufficient speed to escape enemy pursuit.[23]

While the O-47 met most of the needs of the corps and army observation mission, using agencies perceived the necessity for some other type of air vehicle more suited to front line observation. In about 1933 the War Department became interested in an autogiro suitable for military usage; the Field Artillery regarded the autogiro as superior to the captive balloon, the Cavalry wanted autogiros for scouting, and the Surgeon General believed that they would be valuable for evacuating patients from inaccessible locations. So much interest siphoned off a good share of developmental funds, but no suitable autogiro was available for production in 1939.[24] During World War I fixed balloons had performed some 93 percent of frontline observation,[25] and they had proved well-suited for artillery adjustment and general surveillance during a phase of static ground warfare. Seeking to increase the mobility of balloons during the 1930's, the Air Corps perfected a C-6 motorized balloon which could fly cross-country and, arriving at a new observation post, fix its position by means of a winch and cable. This version of the captive balloon appeared to give lighter-than-air equipment a new lease on life, and in November 1939 the Air Corps Board could still seriously assert that balloons "possess mobility comparable to that of units to which assigned and can be moved frequently without material loss of efficiency."[26]

Although the Air Corps continued to argue that a "short range liaison observation" plane could be designed to match most of the characteristics of the autogiro, the competition of balloons and rotary-wing aircraft delayed design competitions for such a plane until February 1939. These competitions were based upon the findings of a board—representing National Guard, Air Corps, Infantry, and Field Artillery—which had set specifications to include a single engine, high wing, two-place, unarmed craft with a speed range of 40 to 125 miles per hour, capable of clearing 50-foot obstacles in a 500-foot run. In September 1939 the Air Corps Materiel Division accepted contracts for 100 Stinson YO-49's, three Bellanca YO-50's, and three Ryan YO-51's, types believed suitable for liaison observation.[27] Shortly after this belated decision, evaluation of the war in Europe was to necessitate revision of the whole program for the procurement of observation planes.

CHAPTER II

THE IMPACT OF WORLD WAR II

THAT the observation doctrines based upon World War I experience had been overtaken by events should have been evident before the outbreak of World War II. During the Spanish Civil War combat experience had demonstrated that observation aviation when required to operate over hostile front lines for any appreciable time, as was done in World War I, ran a great risk of being destroyed by either hostile antiaircraft artillery or pursuit.[1] The outbreak of European hostilities in September 1939, however, permitted the United States to observe aircraft performance and military organization under the stress of combat. Through the reports of military observers and the purchase of equipment in the United States by the English and French, the U.S. Air Corps obtained remarkably sound information about current trends in military aviation.

At the start of World War II each belligerent tried to use observation aircraft very much like those of the U.S. Air Corps. France used the Mureaux-115, a single-engine two-place plane, with a high speed of 193 miles per hour. Germany had the Henschel H. S.-126, a twin-engine, two seater with a high speed of 190.6 miles per hour. The British used two types: the Westland Lysander MK 1 and MK 2, single-engine, two-seaters, with top speeds of 206 miles per hour, and the Fairey Battle, a single-engine, two-place plane, with a high speed of 210 miles per hour. All of these plane types were lightly armed, but they were theoretically able to carry out missions of close cooperation, artillery spotting, command flights, and photographic reconnaissance of division zones to a depth of about ten miles. Almost immediately after the outbreak of the war these comparatively slow airplanes with slight defensive armor found their plight hopeless when they encountered modern high speed fighters.[2]

The British experience was particularly pointed: in September 1939 the Advanced Air Striking Force began observation flights over northwest Germany and the Siegfried positions, patrols which were first limited to a depth of ten miles but were later extended, despite a lack of friendly fighter cover. The Germans soon concentrated fighters on this sector, and the British were forced to suspend observation patrols on 30 September, when four out of five Battles were shot down by ME-109's. During the winter of 1939-40, Lysander squadrons perfected tactics based upon the exceptional maneuverability of this plane, its ability to slow up quickly, to make tight turns, and to skid. These tactics brought many Lysanders home safely, but usually well shot-up. During the Battle of France (May-June 1940) the best the Lysanders could manage were quick trips over the German lines to examine some particular point of interest, and even these spot reconnaissance missions had usually to be timed to coincide with RAF dawn and dusk sweeps.[3] In 1940 when the Air Corps put the question to the RAF regarding the suitability of the Lysander for its duties, the British replied that a tactical reconnaissance aircraft was required with higher speed and greater armament protection. In the face of enemy air superiority the British thought it necessary to employ fighter types for observation and to carry out "tip and run reconnaissance." The British still had hope that artillery observation might be effected with the Lysander or a light highwing monoplane similar to the Stinson YO-49.[4] In September 1940 the British announced

specifications for a light and highly maneuverable plane to replace the Lysander, but they soon combined the role expected of this plane with design specifications for a close-support, bomber-observation aircraft.[5]

From Paris Lt. Col. George C. Kenney reported that the captive balloon was "completely out of the picture as far as modern warfare is concerned."[6] The British had employed no balloons, but the French and Germans had used "a considerable number" up to the end of the period of stabilized warfare in May 1940. Rapidly moving campaigns and the vulnerability of the balloon to modern fighters, however, had eliminated the balloon after the beginning of the Nazi blitz through France.[7] The French possessed some 66 autogiros when war broke out, but none of them appear to have reached the front. The French Air Force sent an officer to the United States in March 1940 to see about purchasing light planes for artillery spotting, their concept being that during stabilized warfare a light plane could fly about three miles behind the front at a low altitude, always remaining over areas where it could be covered by friendly ground fire. If an enemy pursuit approached, it could dive into the tree-tops. Allied officers, however, were divided in opinion as to whether such light planes were practicable. Colonel Kenney reported: "Pilots, both French and British, are unanimous in the opinion that such [light] airplanes cannot live at the front or even near the front as long as the hostile pursuit has freedom of air action." The British were interested in procuring light planes, but only for command and liaison work well behind friendly lines.[8]

The success or failure of aircraft in combat was somewhat easier to assess than were the command organizations of the British, French, and Germans for the control and employment of such aviation The British initially sent two independent air formations to France: the Air Component of the Field Force (RAF Component, BEF) and the Advanced Air Striking Force. The former was a mixed force designed to provide reconnaissance, fighter protection, and close support for the British Expeditionary Force. Its operations were completely under the control of the commander of the BEF; the air officer commanding RAF Component acted as his chief adviser on air operations. It seems that at one time this air component was so organized that an observation squadron was attached to each division and a reconnaissance squadron to each corps. The Advanced Air Striking Force, on the other hand, was meant to carry out bombing raids over Germany, and was actually a short-range component of the RAF Bomber Command. This divided organization lasted only until 15 January 1940, at which time the Air Ministry ordered the establishment of the British Air Forces in France in order to remove anomalies of command and to meet the needs of the tactical situation by putting all British air forces under a single commander. The CINC British Air Forces in France was made solely responsible for the coordination of air operations; he was required to ensure that the CINC British Expeditionary Force had at all times full assurances regarding air support and that his assigned air units be used to the best possible effect in support of the Allied armies as a whole. The Air Ministry realized at such an early date in the war that it was essential that one supreme theater air commander direct the whole available air offensive against objectives which were of the greatest importance at a given time.[9]

During its victorious campaign through the Low Countries and France in the spring of 1940, the German Luftwaffe jealously preserved the integrity of its air units but at the same time made every effort to support the ground war. The entire air striking force was held in five fliegerkorps under two air fleets, each of the latter being normally in support of but not subordinate to an army group. These arrangements permitted great flexibility of striking power. One day Junkers 87 dive-bombers and ME-109 fighters might operate with the 5th Fliegerkorps; next day they might be under the control of the 8th Fliegerkorps; they rarely remained at one air field more than two or three days.

On 11 and 12 May, for example, both air fleets supported the German northern army group in Belgium and Holland; on 12 and 14 May the whole air mass was shifted southward to place a tremendous concentration of fire on the French defenses of Sedan in support of a few armored divisions.[10] Initially the Germans allotted observation aircraft to corps, armies, and groups of armies to form teams for special missions, but only in exceptional circumstances were observation squadrons allotted to divisions. In 1942, moreover, the German Army relinquished its tenuous control over tactical reconnaissance units to the German Air Ministry.[11] The employment of the Luftwaffe in close support, however, was so well managed as to lead many observers to believe that supporting units were attached to individual ground units. Most German air attacks were well planned in coordination with the plan of ground maneuver; planes were on hand at critical points because such points had been foreseen, and up to the breakthrough in France the Germans actually restricted requests for air support to army and corps commanders.[12]

Early experience in World War II thus pointed to the need for centralization of the command and control of tactical airpower in order to exploit its inherent flexibility and striking power. Following Nazi successes in France and Norway, Captain H. S. Hansell, Jr., prepared a study for General Arnold bearing the following significant conclusions:

> Where two or more of the armed forces are required to operate in close cooperation in the performance of a common task, unity of command should be achieved by the creation of a Task Force to meet the situation, and a Task Force Commander should be appointed with authority to enforce coordination among the several arms
>
> Cooperation between subordinate parts of Task Forces should be achieved by enforcing coordination through the normal chain of command of each of the armed forces, rather than by attaching subordinate units of one of the armed forces to a subordinate unit of another.[13]

Although Air Corps officers perceived the real import of World War II as far as command and control went, for the time being their business was to reorganize units, train and experiment, and develop new materiel, which would in turn influence air tactics.

During the early fall of 1940 representatives of the Air Corps, GHQ Air Force, Infantry, Field Artillery, Cavalry, Coast Artillery, and Signal Corps undertook a thorough study to relate the development of observation to the experience obtained from the European belligerents. The committee findings, after being coordinated with the several interested arms and services, were accepted as a policy for War Department action. Observation balloons, now clearly inadequate for field service, were transferred to the Coast Artillery for use as barrage balloons. The committee found the need for two distinct types of observation aircraft: a short-range, unarmed, single-engine, liaison type aircraft and a longer range, twin-engine aircraft, capable of all around protection and equipped to perform all kinds of tactical and minor strategic observation, reconnaissance, and photographic missions.[14] The tactical fuctions of these two types of observation specified that army reconnaissance would penetrate hostile territory beyond the depth of the combat zone to conduct extensive photographic and visual surveillance; European experience indicated that armies must concern themselves with much deeper zones of interest than the 50 miles specified in pre-1939 doctrines. Corps and division reconnaissance would be provided with light and moderate speed equipment capable of performing many observation, command, liaison, and courier missions.[15] The Air Corps had already decided to use A-20 light bombers as photographic reconnaissance planes,[16] and four army reconnaissance squadrons were set up for activation with reconnaissance versions of A-20 aircraft.[17]

The decision regarding equipment of observation squadrons was apparently a short-lived compromise between the ideas of the Air Corps and those of other arms, most particularly the Field Artillery. The Air Corps recognized that the British were turning increasingly to modified combat

aircraft for reconnaissance; [18] and in April 1941 General Arnold directed that the Air Corps test stripped-down P-40's for its own organic reconnaissance.[19] Other arms, however, were preoccupied with light observation planes; as one officer expressed it: "The British Army Air Cooperative Squadrons are . . . being equipped with P-40's. We apparently are going to Piper Cubs."[20] In July 1940 the Field Artillery had forwarded a persuasive request that it be authorized a flight of not less than seven light planes as an organic part of brigade or regimental headquarters. Such a flight, manned and maintained by Field Artillery personnel, would be of the utmost importance in observing artillery fire. The Assistant Chief of Staff, G-3, War Department, had refused the request until such time as a thorough test could be had of the O-49 component of regularly constituted observation squadrons.[21] Resultant Field Artillery service tests of the O-49 called it "the most promising of the slow-flying airplanes," but in May 1941 the Chief of the Field Artillery still believed that some type of light commercial aircraft might be even more suited to the Field Artillery's purposes. In addition, he recommended more tests on the Pitcairn autogiro.[22] The Infantry approved the O-49, although its service tests revealed that the O-49 required more than 150 yards for takeoff and would be of limited use around most command posts. The Infantry also recommended the development of a suitable rotary wing aircraft capable of operation without a prepared landing field.[23] Further progress in the selection of observation aircraft would await field and maneuver tests, to be held in the summer of 1941.

Meanwhile, the Air Corps had been facing the multitude of problems incidental to the ordering of National Guard observation squadrons into the federal service. The first 21 "old" National Guard squadrons were inducted on 16 September 1940; the last of this group was federalized on 3 March 1941. Additional National Guard squadrons were subsequently formed and inducted. Unlike the Regular Army establishment, National Guard squadrons and divisions had trained together for a number of years, and no small furor arose when it became necessary to divide several of these air-ground "teams." For example, War Department action linked the 153d Squadron (Mississippi) with the 37th Division (Ohio), causing quite a few political repercussions and numerous petitions for remedial action from Ohio. Lt. Gen. H. J. Brees, commanding the Third Army, was thus led to propose: "For the best interest in the training of all concerned, the squadrons and ground forces from the same state should be kept together if possible."[24]

Although these observation squadrons were corps troops, the command structures of the nine Corps areas and four armies did not adequately provide for them. The 107th Squadron, for example, was a part of V Corps troops and was supplied through corps, but it was attached to the 32d Division for administration (except supply) and training. An inspecting officer reported that "Closer attention to the needs of this squadron by a single higher echelon would be preferable. . . . The morale of the 107th Squadron is quite low."[25] Another inspector, checking the 116th Squadron, noted: "There seemed to be a feeling of discouragement among officers because of limited progress in combined training, and because of an alleged over-emphasis on meticulous exactitude in administrative paper work."[26] A general inspection of the observation squadrons by the Inspection Division, OCAC, revealed:

> Administration is difficult and confusing because of too many chains of command—post, corps area, division, corps, or Army headquarters, maintenance command, Materiel Division, Chief of Air Corps, etc.—none of these a source of complete interest or support and all involving much correspondence Many reports are required (the same as at large stations) with usually inadequate headquarters space or base organization to prepare them [27]

The training of the observation squadrons also varied in quality and quantity in the nine Corps areas, there being no standardized training program.[28] Brig. Gen H.

A. Dargue, Chief of the OCAC's Inspection Division, bluntly stated that:

> Nature of missions performed [by the observation squadrons] depends on the individual interest of the ground commanders. Many officers felt that field training has been wasted and might just as well have been done at their home stations The concensus is that the present observation procedure is outmoded and practically ineffectual in modern conditions. . . . Commanders of these units feel they are neglected; they are compelled to solve their own problems without support from a higher echelon.[29]

Army commanders (through little fault of their own as it would appear from their replies to a letter of admonition from Army Chief of Staff General George C. Marshall[30]) also employed the observation squadrons on a variety of projects not connected with their tactical mission. Lt. Gen. Hugh A. Drum (First Army) was forced to use his observation squadrons to fly a large number of tracking, towing, and spotting missions for antiaircraft and Coast Artillery training. He had also to use observation planes on photographic missions for the construction quartermasters, a task which required them to take photographs showing the progress of construction underway at the various posts and installations of First Army. Other miscellaneous missions—camouflage inspection for instance—had been necessitated by War Department direction.[31] Lt. Gen. John L. DeWitt (Fourth Army) had much the same problem in providing tow-target missions for his coastal defense units.[32] Each Army commander also took the opportunity to point out that the observation squadrons lacked sufficient modern aircraft and trained personnel to do all that was required.[33]

Although the various interested arms and services saw different solutions for the defect, all agreed that observation aviation tactics were not keeping pace with the lessons of the European war. Colonel Robert E. M. Goolrick, commanding Air Corps Troops, IX Corps, wrote a particularly severe indictment in February 1941:

> I had not served with Observation Aviation for nine or ten years until returning to this station. I find, after all these years, practically no change in the basic theories of the branch and very little change in the equipment assigned . . This important branch of the Air Corps has stagnated for the past fifteen years. . . .[34]

A month later Goolrick loosed another blast:

> All in all, there has been little change in the technique of employment of the equipment of observation for many years, though conditions under which Observation Aviation is employed have undergone radical and revolutionary changes.[35]

A Cavalry board at Fort Knox, Kentucky, was equally strong in its comments:

> For the twenty-odd years since the World War, the air observation service supplied to supported ground troops has been either lacking, intermittent, inadequate in kind, or faulty in training. . . This condition is due to problems which cannot be solved by Air Corps personnel. No fault is found with their lack of cooperation, or in general with their training. The unsatisfactory situation is believed to be a result of the present system under which the observation service operates[36]

In an effort to revamp observation tactics, on 1 June 1941, the War Department issued a training circular which one of its authors, Colonel W. E. Lynd, frankly admitted was "drawn out of a clear sky and was not complete."[37] The circular cautioned that: "Complete control of the air *may* permit a detailed and deliberate visual reconnaissance of hostile territory by methods similar to those previously employed," but it seemed more likely that hostile air action and ground fire would require the performance of daylight reconnaissance missions in hostile territory at high altitudes and maximum speed. The greatest use would therefore have to be made of photography, with the observation planes making a series of brief sorties into enemy territory, taking full advantage of clouds and high speeds and concerning themselves only with carefully selected reconnaissance objectives. The extreme vulnerability of liaison aviation had to be recognized; normally liaison aircraft could only be employed over friendly territory. Since it appeared likely that liaison aircraft might not be able to operate in

combat, all observation crews would have to be trained to adjust artillery fire. The training of both ground and air units would stress the employment of voice radio communications.[38]

Ground commanders did not rapidly become cognizant of the new tactics. During the summer maneuvers of 1941 Lt. Gen. Leslie J. McNair, commanding GHQ, U S. Army, saw observation planes floating leisurely over a puff-target range, directing artillery fire from points well within small-arms range. Under battle conditions, McNair doubted that such planes could survive long enough to establish radio communications with the firing battery. McNair also noted that observation was being used as an elevated observation post over the front lines, when it should have been back in the enemy's rear area locating hostile dispositions and troop movements. Photography was little used although it would be essential if high speed aircraft were to be employed. Some ground commanders, in fact, still required "aerial sketching" of targets although it would be suicide for an observation plane to remain over a hostile area for such a length of time. In short, General MacNair concluded: "Training and employment of observation aviation today is progressing along lines almost identical to those of 1918, and is predicated on the assumption that we will have superiority of the air, and that observation aircraft will be able to operate over and behind hostile lines without interference from either ground or air."[39]

Thus in the spring and early summer of 1941 the aerial observation program was, as General Dargue said, "extremely poor," and various headquarters suggested differing solutions. Dargue's thought was that the observation squadrons should be incorporated into one organization, such as a "cooperation command," directly charged with their training, administration, and control.[40] Thinking mostly of administration, the Third Army recommended the formation of a group headquarters to supervise three observation squadrons and a base squadron and to control observation stations.[41] The Armored Force had somewhat earlier proposed a group headquarters to supervise the training of its two observation squadrons; the skeletonized group headquarters it visualized would be for tactical training purposes and not primarily for administration, but it would coordinate the major supply and equipment requirements of the two squadrons.[42] The 7th Cavalry Brigade board asserted that observation problems might be solved if observation planes were organically assigned, not to an observation squadron "pool" but directly to regiments:

> If planes were immediately available to Regimental Commanders, in like manner to motorcycles, commanders could make plans for the positive use of them, in coordination with other reconnaissance and information agencies available to them. Thus at times advance use could be planned for them, while at other times, a plane could be made immediately available in case a situation suddenly developed where the use of a plane is particularly desirable[43]

Solutions differed, but the general opinion was abroad in the Army that observation aviation needed a general reorganization.

CHAPTER III

ORGANIZATION OF AIR SUPPORT COMMANDS

DURING MAY 1941 the Air Corps Plans Division proposed a reorganization for observation in which a headquarters for army cooperative aviation would be established and placed under the GHQ Air Force. This headquarters would be assigned the job of developing doctrines and tactics for the proper employment of cooperative aviation. The War Department War Plans Division concurred in principle, but Brig. Gen. Harry L. Twaddle, AC/S G-3, disagreed because of his belief that doctrine should be formulated only by the chief of an arm.[1] Lt. Gen. Delos C. Emmons, who took command of the Air Force Combat Command when the GHQ Air Force was so redesignated on 25 June 1941, also concurred in principle but objected to details: the reorganization was going to be complete from top to bottom and the resultant command would be a large, nationwide, and complicated one. Emmons therefore believed it most appropriate to establish an "army cooperative aviation section" as a part of his headquarters and to set up five "army cooperative aviation commands," one for each field army and one for the Armored Force. To insure the close cooperation with the ground force, Emmons proposed to locate his "army cooperative aviation section" at the Army War College with the GHQ U.S. Army headquarters. The headquarters of the commands would be located at airdromes nearest the ground force headquarters with which they would work. Before sending forward the memo representing his ideas, Emmons secured the concurrence of Lt. Gen. Lesley J. McNair, the commander of GHQ, U.S. Army.[2]

Most of General Emmons' suggestions were to be accepted, but it is nevertheless necessary to follow the planning for the new command structure, noting especially the relationships visualized between army and air support command. Much of the basic planning for the reorganization was that of Colonel William E. Lynd, who was to head the Air Support Section of the Air Force Combat Command. Colonel Lynd's idea was that the air support structure would provide a chain of command from the AAF down through channels to the observation group. The Air Support Section would record and develop doctrine for promulgation by the AAF, an important duty to Lynd's way of thinking because:

> At the present time, many instructors are actually putting out their own ideas instead of accepted tactical doctrine. This is understandable, particularly as to observation, because there is really no standard tactical doctrine now published that would really be effective during the war. The standardization of both training and instruction would be a major function.[3]

Lynd's concept of the role of the air support commander was as follows:

> The Army Air Commander should act as Air advisor to the Army Commander. In other words, act as both staff officer and a unit commander. The Army should designate what ground units particular squadrons will support, based upon the advice of the Air Commander. There should be an Air officer as head of a section of the Army G-3 office. This officer merely maintains the continuous air records and policies as an integral part of the Army.
>
> The control of the Army Air Commander over elements of that command not attached to Army units should be direct command; over units attached to ground elements, such as squadrons to divisions or corps, the Army Air Commander should determine their requirements with respect to personnel, materiel, equipment, technical supplies, facilities and maintenance, and the preparation of necessary

plans for their development, organization, and technical equipment Under authority from the Army Commander, he should supervise their training and guide their tactical operations.[4]

The air support command reorganization was somewhat delayed by other changes which General Emmons desired to effect in the Air Force Combat Command. By a series of what he called "piecemeal orders," Emmons began the inactivation of existing wing headquarters and the creation of interceptor, bomber, and air support commands under each of his four air forces, plus a fifth air support command directly responsible to AFCC headquarters.[5] On 25 July 1941 the War Department directive for the air support reorganization appeared, substantially representing the wishes of Combat Command and purposely omitting many of the details regarding the air support commands for further study.[6] The official directive ordered General Arnold to establish appropriate organizations and staff agencies to fulfill the following functions and responsibilities pertinent to air support aviation:

(1) Supervision over and coordinated development and training of aviation designed to support ground units and the inspection essential to the fulfillment of those duties.

(2) Development of doctrine, tactics and technique of Air Force support of ground forces and preparation of training directives in consonance therewith.

(3) The preparation of recommendations as to development of aircraft and allied equipment essential for close support of ground forces.

(4) Command of all support aviation not assigned or attached to other commanders.[7]

General Arnold was ordered to form an Army Air Support Staff Section in Air Force Combat Command and five numbered air support commands, the latter to be by redesignation of existing wing headquarters. Initially the air support commands would control only observation squadrons, which would be transferred from their corps and army assignments when General Arnold made such a recommendation. "When so transferred, these units will remain attached to ground units to which they are now assigned, pending further recommendations as to methods of control. . . ." Nothing in the directive was intended to alter the principle that all types of aviation would be trained in the support of ground forces; nor was it intended that the organic units assigned to the air support commands would constitute the sole air support of ground operations.

General Emmons had already assembled the officers whom he had selected to head the new commands. On 24 July 1941 he announced Colonel William E. Lynd as Combat Command's Air Support Officer, a fortunate choice since Lynd had long been concerned with observation matters and had been cited for gallantry on an observation mission prior to the St. Mihiel offensive during World War I.[8] The commanders designated for the air support command, were Colonel William E. Kepner for the 1st, Colonel Hume Peabody for the 2d, Colonel Asa N. Duncan for the 3d, Colonel Robert C. Candee for the 4th, and Brig. Gen. Junius W. Jones for the 5th.[9] These officers made recommendations regarding the organization of the new commands,[10] and by 13 August 1941 Emmons had a fairly firm plan for the command activation and the assignment of observation units.[11] On 30 August the Combat Command issued orders establishing the 1st Air Support Command (7th Pursuit Wing) at Mitchel, the 2d (20th Bombardment Wing) at Will Rogers, the 3d (17th Bombardment Wing) at Savannah, the 4th (15th Bombardment Wing) at Hamilton, and the 5th (16th Bombardment Wing) at Bowman Field. Eleven new observation group headquarters were formed, with cadres furnished by the National Guard squadrons. Assignment of the first four air support commands was to similarly numbered air forces, the 5th Air Support Command was assigned directly to Combat Command, and observation groups and squadrons were allocated among the several new commands, with the provision that the squadrons "will remain attached to their present assignments."[12]

During the latter part of July 1941 another conference of twenty-two experienced observation officers concerned itself

with subjects of personnel, organization, equipment, and tactics. Nothing really satisfactory was discovered regarding observation aircraft types, although the B-25 modified for observation was thought to have some advantages.[13] Much thought was given to the new observation group, and recommendations contemplated that groups would be assigned to air support commands but would be attached to armies, corps, or the Armored Force. It was further recommended that squadrons be attached to divisions only under exceptional circumstances, as when a reenforced division formed a separate task force. The jurisdiction of air support commanders over observation squadrons attached to ground forces should be limited to the determination of their personnel, materiel, equipment, technical supply, facilities, and maintenance requirements. The air support commanders should assist the ground commanders in bringing squadrons to combat readiness and were to recommend exercises to improve the effectiveness of observation units. All observation squadrons should desirably be detached from the ground forces for a considerable portion of each year in order that the air support commanders might supervise their basic Air Corps training.[14] In October 1941 these recommendations were finally accepted by the War Department in substance,[15] but not before some little uncertainty had been met in ground and air headquarters as to the exact status of the observation squadrons under the new regime.[16] On 10 December 1941 most of the observation squadrons were detached from their ground organizations for a period of Air Corps training, with the provision that they would continue to support their ground organizations and to perform such other missions required by the war emergency.[17]

It is probable that no other AAF command had as hectic an organizational existence as did the air support commands. They were hardly organized at their permanent stations before the war emergency began. At the beginning of hostilities the 1st and 4th Air Support Commands were assigned to the Eastern and Western Theaters of Operations, and their units were diverted from their primary mission of air-ground cooperation. On 18 December the 1st Air Support Command was assigned to an antisubmarine patrol from Eastport, Maine, to Key West, Florida,[18] and at about the same time the 4th Air Support Command began similar patrols on the Pacific Coast. Personnel levies for overseas duties took three of the air support commanders and other headquarters people, so that by January 1942 the Air Force Combat Command reckoned that it had little more than the remnants of three commands remaining. At this time the Combat Command therefore proposed to use Colonel Lynd's air support section as the nucleus of a centralized air support command,[19] a proposal which met approval of all interested agencies except the War Department G-3, who believed a better coordinated system could be devised.[20] The decision was then made to retain the commands and to use those not urgently required for air-ground training for the manning of new overseas air headquarters; as a result the VIII Ground-Air Support Command was formed by a redesignation of the 5th Air Support Command in April 1942 and the XII Ground-Air Support Command drew its personnel from the III Ground-Air Support Command in September 1942.[21] Even the designations of the commands went through a confusing series of changes. In March 1942 the AAF reorganization included a redesignation of the air support commands as ground-air support commands, and although none of the responsible officers appear to have understood the necessity the commands were so redesignated on 22 April.[22] Because the designation was thought unwieldy and serving no good purpose, the commands were redesignated as air support commands in September 1942. By dint of much shuffling of personnel, four air support commands were again in being at the end of 1942.

With the reorganization of the Army Air Forces in March 1942 and the deactivation of the Air Force Combat Command, the Air Support Section at the Army War College

was abolished and a new Ground-Air Support Directorate, headed by Colonel David M. Schlatter, undertook the headquarters direction on air support aviation.[23] Some order was brought into the command chaos in May 1942, when Colonel Schlatter secured a decision that each air force in the continental United States would have a ground-air support command,[24] and, as a result, four of these commands were brought up to strength. Justifying his request with the assumption that antisubmarine patrols were inconsistent with cooperative training with ground troops, Colonel Schlatter secured the release of most observation squadrons from Eastern and Western Defense Command coastal patrols on 27 June 1942.[25] In December 1942, in cognizance of a specialization of operational training in the four continental air forces, the four air support commands were reassigned to the Third Air Force.[26]

Although the organization of the air support commands and observation group headquarters was no doubt salutary to efficient administration, there was no ready solution to the question of what aircraft could best meet the observation mission, or where these planes could be obtained in quantity. No small part of the confusion continued to come from the preoccupation of the ground forces with light planes while the Air Corps continued to insist that the observation mission would require specially modified combat type aircraft. Competing demands of tactical units and lend-lease for these same combat type aircraft meant that few of them could be made immediately available for observation.

In the summer maneuvers of 1941 light commercial airplane types proved well suited for artillery observation and for column control in rear areas. In many respects the light commercial planes seemed superior to the O-49 military light plane: their cost was much cheaper and they could be had in quantity by "off the shelf" purchases.[27] In September 1941 General McNair therefore requested procurement of 200 light commercial planes, and in October he raised his procurement objective to 500 light planes. By February 1942, 1,600 of these "puddlejumpers" had been placed on order.[28]

Acceptance of the commercial types ended the long search for an aircraft suitable for liaison and courier work, but in actuality the function outlined for the light commercial "puddlejumpers" or "grasshoppers," as they were variously called, could hardly be properly designated as "observation." One study pointed out that the Field Artillery used the light planes, not for a penetration of enemy lines, but as "merely a vertical extension of the observation post."[29] In the Carolina maneuvers of 1941, however, "puddlejumper" pilots crossed the front lines on numerous occasions, taking the risk that they would not be seen by an umpire and counted as an automatic casualty. Colonel Lynd suggested that the misuse of the light airplanes was occasioned by their "O" designation, which implied that light planes were designed for all observation purposes whereas they were supposed to remain at least 1,800 yards within friendly territory. Lynd recommended that light planes be redesignated as "liaison" aircraft, with the letter symbol "L." In April 1942 such action was formally directed by the War Department.[30] In retrospect the functional differentiation between liaison and observation appears a simple matter, but it did much to clear up the confusion which had surrounded the selection of suitable types of observation aircraft.

The light aircraft procurement program was fitted into the Air Force Combat Command program for observation aircraft, which was completed and issued by General Emmons on 27 October 1941. This program conceded that slow-flying planes could operate "effectively and profitably" over friendly troops, but that well defended twin-engine bomber and fighter types would be required where enemy air parity or superiority was expected. Emmons recommended the organization of two types of observation squadrons: a light observation squadron with twelve liaison types and six pursuit-type planes and a medium observa-

tion squadron with six liaison, six bombardment, and six pursuit types. The squadrons were to be allocated on the following basis: one light observation squadron would support each infantry division; one medium squadron would support each cavalry division, each armored division, and each corps; and two medium squadrons were to be allocated for the use of each army. Besides the two types of observation squadrons, a photographic squadron equipped with six twin-engine bombers and twelve pursuit types, all modified to carry cameras, would be required with each army and the Armored Force. These photographic squadrons were to perform all aerial photography required by the ground forces beyond the capabilities of observation squadrons.[31]

The decision to employ modified combat-type airplanes was justified by the nonexistence of any specially designed observation type suited to the demands of combat; moreover, only the best combat types were expected to survive enemy air opposition. Economy in production, maintenance, and tactical operations was to be expected from the employment of combat-type airplanes.[32] The decision was reasonable, but the War Department G-3 was willing to concur in the program only if "the program for the organization of observation aviation shall not interfere with the organization of the bombardment and pursuit elements of the Army Air Forces. . . . This proviso is made because it is felt that the first job which must be accomplished is that of obtaining sufficient air superiority to permit other operations. . . ."[33] The program met War Department approval on 10 December 1941.[34]

As approved, the observation program was extremely generous of aircraft, proposing as it did to allocate 290 aircraft to an army of three corps such as would normally operate on a 15- to 35-mile front. In addition to this programmed allocation, the War Department on 10 December 1941 permitted the Field Artillery to organize and service test two organic aviation units, one as a part of brigade artillery and the other as a component of division artillery.[35] Seeking to head off this schism in the command of air units, Colonel Lynd proposed to increase the liaison aircraft in light observation squadrons from twelve to twenty-four, but the War Department G-3 withheld concurrence because he computed that some 458 planes would thereby be set up for an army of three corps and nine divisions. The G-3 also observed: "If the decision is made to assign these units to the Field Artillery there will be no requirement for additional liaison airplanes in Air Corps observation squadrons."[36] General Arnold nevertheless directed that the liaison flights of observation units would operate continuously with the supported ground unit,[37] and General McNair let it be known that he "favored in the main air observation by air forces."[38] These actions did not suffice to scotch the organic aviation matter, and on 6 June 1942 the War Department made a team of two light commercial liaison planes, with two pilots and one mechanic, organic in each Field Artillery battalion, divisional Field Artillery headquarters, and in the headquarters of each Field Artillery brigade or group. Procurement of liaison airplanes, spare parts, repair materials, and auxiliary flying equipment for the Field Artillery aviation became the responsibility of the AAF.[39]

There were some indications that ground force officers meant to obtain a still larger share of organic aviation. The Field Artillery School commandant frankly admitted as much: "The field artillery air training program which we are so laboriously getting underway is just the first step in expanding such air facilities to other units of the ground forces. I feel that we are pioneers in this field and will have to fight it through against the objections of many people."[40] The commandant asserted in September 1942 that inferior pilot personnel was being furnished by the AAF, endless difficulty was being experienced in getting liaison pilots rated by the AAF, and, in short, administrative restrictions placed upon the organic liaison project were practically nullifying the Field Artillery's efforts. Assistant Secretary of War John J.

McCloy diagnosed the difficulties as due to a false start at Fort Sill, and at a meeting in his office on 10 November 1942 most of the disagreements were smoothed out. The AAF remained responsible for procurement and rating of Field Artillery liaison pilots.[41]

Once the functional difference between liaison and observation had been clearly established, the AAF was quite willing to decentralize liaison aviation. An observation board recommended in October 1942 that the liaison airplane flight be removed from observation squadrons and be assigned organically to corps and divisions.[42] "It is my personal belief that liaison airplanes have no place in an observation squadron," wrote the commander of the II Air Support Command in November 1942.[43] That same month the AAF proposed to clarify the assignment of such aviation. Because of a shortage of high performance airplanes the AAF thought it doubtful that observation squadrons could ever be made available on a one-to-division basis, but there was no shortage of liaison planes. The AAF therefore proposed to separate the observation and liaison functions; it recommended that all liaison aviation operating with a division (including organic Field Artillery liaison) should be formed into AAF liaison flights and assigned to divisions and other units where they would have a status similar to Signal, Medical, and Quartermaster units. Personnel for such units would be from the AAF, and the AAF would be responsible for flying and technical training, development and procuring materiel, and establishment of technical standards. The Army Ground Forces would be responsible for the tactical training and operations of all AAF liaison flights assigned to armies, corps, and divisions.[44] Maj. Gen. George E. Stratemeyer, Chief of Air Staff, forwarded this study to the Army Ground Forces on 20 November, with his opinion that the organization proposed would clear up all outstanding liaison aviation difficulties.[45]

Despite the obvious merit of the proposition, the Army Ground Forces reply was starkly opposed. Under the organic aviation program for the Field Artillery, the AAF was charged with supplying aircraft, parts, and flying and technical training of personnel; the Field Artillery was charged with operational training of liaison aviation personnel. The conclusion was that:

> The airplanes thus are in the same status as other transportation and are handled in the same manner as, for example, trucks. The personnel is in the same status as other specialists—for example, cooks.
>
> Thus it is believed that there is no need of a unit consolidated for the entire division; on the contrary, such an organization would be definitely objectionable, regardless of whether the unit is ground or air
>
> It is agreed that 'all liaison aviation should be organic in ground units' The question is whether the organization should be an AAF unit assigned to each large unit, as proposed by the AAF, or that now in use by the field artillery. The latter is favored.[46]

The AAF nevertheless proceeded with its plan to decentralize liaison aviation to the using ground unit. On 19 December 1942 Colonel Schlatter ordered that all Flights "C" (the liaison flights) of observation squadrons would be attached to supported ground units and that they would return to their parent squadrons only when necessary to meet supply, maintenance, and administrative needs unobtainable through ground force channels.[47]

Although there were ample numbers of light planes to equip liaison flights, the high performance flights of the observation squadrons proved more difficult to supply. Maneuver experience demonstrated that the light observation squadron (twelve liaison and six pursuit types) lacked sustained strength, and the AAF therefore recommended elimination of the light squadrons in favor of one standard observation squadron, similar in composition to the medium squadron.[48] Effective 1 July 1942 the War Department approved a standard observation squadron, accepting its composition as six high performance single-engine planes, six high-performance twin-engine bomber types, and nine liaison types.[49] But this action did not improve the low priority rating accorded observation in the scramble for combat type aircraft.[50] After he had heard a number of personal complaints

from ground force officers, General Arnold indignantly stated that "he wanted every 'God Damn' division to have its [observation] aviation," but this outburst had little immediate effect. The best that the AAF A-3 could do was to suggest use of substitute A-31's.[51] By the middle of 1942 the Ground-Air Support Directorate was grumbling about getting "the 'crumbs from the table' or models excess to other branches. Every conception which has looked promising has met with an untimely abortion. Every agreement and promise made us on equipment has been violated."[52]

Yet officers of the AAF were virtually powerless in the allocation situation. Additional lend-lease commitments of P-39's delayed observation allocations until October 1942, and the production of A-20's was less than the allocations to the Russians. Colonel Schlatter found it "difficult to recommend diversion from use on an active battle front to training in this country...."[53] The situation did not improve. During October 1942 Schlatter reckoned that 674 light bombers were produced: of the 364 single-engine bombers the AAF received only 32 and of 310 twin-engine bombers the AAF received 111. The twin-engine aircraft had to be used to furnish equipment for light bombardment and observation units going abroad. Schlatter recommended an increased allocation of fighters and a definite allocation of medium bombers to observation, but the AAF Director of Bombardment immediately rejoined that no possible B-25's could be made available from production for observation unless the efficiency of medium bomber units already overseas were to be reduced.[54] On 8 December 1942 Schlatter once again computed the deficiencies of observation: in the 47 observation squadrons in the United States there were a total of 35 fighter types and 62 light bomber types. Most of the combat-type observation planes, moreover, were concentrated in two groups scheduled for early overseas commitment and in a replacement training group. The proposed commitments which had been set up by the AAF A-3, Schlatter said, would not even adequately equip the units committed to overseas movement. Schlatter recommended that B-25 medium bombers and fighters be allocated to observation units in the zone of interior in quantities sufficient to maintain them at half strength in combat types. "If this minimum number of aircraft cannot be made available to observation units," Schlatter commented, "the observation program should be dropped and the Army Ground Forces informed that the Army Air Forces cannot accomplish this mission."[55] Again no immediate improvement of aircraft allocations would be forthcoming.

The reorganization of the observation establishment, viewed thus far, was primarily designed to correct administrative deficiencies. Next to nothing was said in the basic documents establishing the air support commands about their tactical employment. The status of the commands, moreover, long remained uncertain in the wording of directives and manuals. Thus a document issued by the War Department on 7 October 1941 stated: "Air Support Command may be attached to army or armored force upon entry into Theater of Operations or as directed by the Theater Commander."[56] Again, but somewhat later, the important Field Manual 31–35, Aviation in Support of Ground Forces, prescribed that: "An air support command is habitually attached to or supports an army in the theater."[57] In setting up air units for corps maneuvers during the summer of 1942 this phrase was used by the AAF: "An Air Support Command Headquarters, including a commander, will be made available to each army corps participating in maneuvers."[58]

Undoubtedly it was expected that the status of the air support command would be worked out in maneuvers; thus the Air Force Combat Command warned "Tactical doctrine for air support is not fixed. . . . Air Support Commanders are expected to develop tactics and technique of Air Support."[59] At a conference preparatory to the autumn maneuvers of 1941 in Louisiana, General McNair stressed that air action

should be at the initiative of air commanders. As Colonel Lynd quoted McNair: "They should beat the Army Commanders to a decision by suggesting or recommending." McNair was said to have "intimated it might be necessary to tell a ground commander to follow the suggestions of his air advisers, but hoped that this would not be necessary."[60] An instructor at Leavenworth's Command and General Staff School, however, had a different concept: according to him, the commander of the ground task force should prepare his plan of attack "just as though no combat aviation was to be attached," but he was to call in the air commander "at least 48 hours prior to the date set for the attack" and discover how aviation could be integrated into the plan.[61] In the field the status of the air support command appeared equally indeterminate. "These [Louisiana] maneuvers brought out clearly the question of what constitutes the proper organization and functioning of Air Task Forces supporting Ground armies," wrote Lt. Col. Paul L. Williams, executive of the 3d Air Support Command "Were they Air Forces, composed of a Bomber Command, Interceptor Command and an Air Support Command? Were they Air Support Forces having attached to them Bomber Command and Interceptor Command units?"[62] In the Carolina maneuvers of November-December 1941, the 3d Air Support Command was attached to IV Corps and the 1st Air Support Command to First Army. The command post of the 3d was at Spartanburg, connected by good wire communications to IV Corps headquarters, about sixty miles away. The command post of the 1st accompanied First Army in the field and the air support commander doubled as air officer, First Army. General Emmons, while unwilling to state that one setup was better than another on the basis of a single maneuver, simply noted that the commander of the 3d Air Support Command had greater freedom of action and that his planes were used more aggressively and offensively.[63]

Actually, the simultaneous command and staff capacity of the air support commander was fairly well understood by the senior commanders at GHQ and Air Force Combat Command, and after some discussion early in 1942 they agreed to eliminate army and corps and such division air officers as remained, on the basis that they were now superfluous and apt to complicate a ground commander's decision. On this occasion, General McNair discounted an apparent desire of division commanders to have an air officer "as primarily an expression of the invariable tendency on the part of unit commanders to make themselves self sufficient."[64] And in time what seemed to be a definite status of the air support command was established in the lower echelons. The I Ground-Air Support Command attempted to explain its command status as follows:

> The Ground-Air Support Command may be considered as a force of specialists in air operations normally attached to or supporting a ground army much in the way an Armored Corps might be attached by higher authority. Each would have special problems of technical supply and operation, but each would function under general operational control of the Army or theater commanders. The commander of such a force should hold a status under the Army commander commensurate with the commander of an Army Corps . . .[65]

The conclusion is nevertheless inescapable that the simultaneous "command and staff" status of the air support commander meant "command" to the AAF and "staff" to the ground forces. FM 31–35 evidently meant that the air support commander, operating under a general mission order, supported the ground commander but retained the integrity of his own air command.[66]

If there was perplexity about the status of the air support command in an operational situation, there was also some obscurity as to its control of observation units in combat. In the reorganization these squadrons had been relieved of their assignment to ground units, but they remained attached to them. Maneuver experience showed that ground commanders still followed old ideas and demanded of their observation squadrons what they

could not expect to obtain in a war situation. Unrealistic observation flights, often in excess of two hours in duration over enemy lines, were noted by General McNair in Second versus Third Army maneuvers.[67] In the Carolina maneuvers, IV Corps first demanded "continuous reconnaissance" over enemy lines and then changed its requirement to have observation planes "report hourly," which, with the base air drome 100 miles from the area to be reconnoitered, meant about the same thing as continuous flying. IV Corps ordinarily required maximum flying effort each day, in spite of the fact that this inevitably diminished observation capabilities toward the end of each phase when ground combat was joined and maximum effort was needed.[68] Because of a lack of adequate ground communications, corps and division observation planes had to duplicate each others' missions. The commanding officer of the 106th Observation Squadron explained the principle of contact missions to the IV Corps G-2, but when the flying time to and from the area of reconnaissance was computed such missions were thought to be too slow to be of service.[69] After viewing these maneuvers Colonel Lynd commented:

> It is going to be difficult to change observation operations to conform to modern warfare, however, one of the greatest effects in this direction will be the supplying of new type equipment. So long as they continue to fly O-47's, O-46's, and even O-38's, they will still cruise about over enemy territory at medium altitudes for hours at a time.[70]

But according to basic statements of doctrine, observation remained attached to ground units during field operations. War Department Training Circular No. 70, 16 December 1941, prescribed: "Because of the necessity for close control by ground force commanders, observation aviation must be attached to the ground unit specifically supported."[71] Field Manual 31–35, 9 April 1942, written after tests and the experience of Louisiana and Carolina maneuvers,[72] rather cautiously suggested the benefits of centralized control:

> Observation aviation will generally be sufficiently decentralized to permit each corps and division to plan the use of and to call directly upon its supporting observation squadrons for missions. . . . While generally each echelon depends upon the allotted observation indicated above, higher echelons, where the situation warrants, use their aviation to carry out missions for lower units, normally retaining centralization of control.[73]

This somewhat cautious idea was amplified in War Department Training Circular No. 36, 16 June 1942:

> All observation aviation within an army, theater, or task force is assigned to a ground air support command. In order to attain the maximum flexibility in meeting the requirements of the supreme commander, the ground air support commander retains centralized control of all observation so assigned. He will designate observation units to support specific ground units as may be required in execution of the plan of the ground commander. . A division may be supported by a squadron, or it may have reserved for it a definite number of missions from a squadron . . . . the actual amount [of observation] available to each unit will depend upon the total observation assigned to the ground air support command and upon its distribution as dictated by the situation.[74]

This training circular emphasized the responsibilities of the air support commander. Because this air commander was responsible for supporting the plan of the ground commander, he had to have control sufficient to dispose his observation units properly. "He and his group commanders lay general plans for the complete coverage of all areas affected [by the plan of operations] to eliminate overlapping and unnecessary missions in lower echelons. Actual operations will be decentralized to permit ground unit commanders to make direct requests upon supporting observation units for missions and receive the resulting information direct." This circular was prepared by the Directorate of Ground-Air Support, and the idea of centralized control of area observation was dubiously received by the Army Ground Forces. Coordination of area coverage, urged one ground officer, "can be automatically accomplished by decentralizing operation of squadrons to corps and divisions, which are assigned areas of responsibility."[75]

The concept of centralized control of observation squadrons under the air support commander was apparently tested in VI Corps maneuvers held in Carolina between 29 July and 5 August 1942. The three observation squadrons of the Blue forces were kept under corps control until the morning of the attack, and there were no direct communications between the Blue divisions and the observation squadrons. The 4th Division requested observation missions when it began its attack on 29 July, but these requests did not get through to corps headquarters. On 29-30 July the 29th Division reported the same experience. An Army Ground Forces observer reported that the 4th Division "needed the direct support of an observation squadron and direct communication to its airdrome during its advance."[76] Another observer at the same maneuver thought that the air support organization "seems basically sound," and he believed that it was "a waste to allot squadrons for the 'support' of Divisions prior to imminent or actual contact, unless these Divisions are on an independent and remote mission. A Division in a mass with other Corps troops in a forward or retrograde movement has scant occasions to use either observation or bombardment."[77] The Directorate of Ground-Air Support correctly ascribed the disappointments of observation during the VI Corps maneuver to a failure of communications units, which were furnished at the last minute and were not sufficiently well trained.[78] It appears, however, that the concept of centralized control of observation was discounted by the Army Ground Forces, perhaps on the basis of the VI Corps maneuver.

By the autumn of 1942 the AAF had made some decided progress in regard to the organization of observation aviation and the air support commands. It had drawn some of its ideas from the conduct of the war in Europe; other concepts had come from maneuver experiences in cooperation with ground troops in the United States. Progress in the development of new observation and close support doctrines had been delayed by the influence of what may best be called World War I thinking, the necessity that all new ideas be carefully checked by ground-minded officers on the War Department General Staff and at General McNair's headquarters, and finally by the fact that AAF officers (as Colonel Lynd said) were often "groping in the dark."[79] War Department Field Manual 31-35 was frankly tentative and incomplete,[80] but it represented the best thinking of ground and air officers in 1942. While there was incomplete acceptance by ground officers, AAF leaders had become rightly convinced that observation would require fast combat-type aircraft. AAF officers had also perceived that a concentration of observation effort and control should be undertaken at the highest practicable level. Finally, AAF officers were "very favorably impressed" with British systems of air support and observation used in the Libyan campaign: "The British never attach air corps units to ground units, maintaining them always under air control, with the final say as to whether or not a mission will be performed resting with the air commander, rather than the ground commander, as provided in our present doctrine."[81]

CHAPTER IV

LESSONS OF NORTH AFRICA: OBSERVATION BECOMES RECONNAISSANCE

THE FIRST MAJOR OFFENSIVE undertaken by United States forces in World War II was the invasion and campaign for North Africa. Here theoretical air-ground doctrines received their first battle tests. Here too the U.S. systems for tactical air cooperation would be closely compared with those which had been matured by the British. The result would be a thorough reorganization of U.S. tactical air concepts and a simultaneous reorganization of observation.

First planning for the invasion of North Africa committed the Twelfth Air Force to landings at Oran with a Center Task Force. Somewhat later another landing was projected for Casablanca, where a Western Task Force was to be set ashore to insure the neutrality of Spanish Morocco. To support this Western Task Force, the AAF activated the XII Ground-Air Support Command at Birmingham, Alabama, on 17 September 1942. Among other units assigned to the XII Air Support Command (so redesignated on 1 October 1942) was the 68th Observation Group, with its 16th, 111th, 122d, and 154th Observation Squadrons.[1] Photographic reconnaissance for the Twelfth Air Force would be provided by the 3d Photographic Group, which was relieved from assignment to the Eighth Air Force on 16 October 1942 and subsequently was reassigned to the XII Bomber Command.[2]

On 8 November 1942 Allied task forces went ashore on the beaches flanking Oran, Algiers, and Casablanca. Ground crews of the 68th Observation Group had left the United States by surface transport for the United Kingdom in September 1942, and shortly after D-day the ground echelons of the 154th and 111th Squadrons were at Oran and the 122d and 16th were at Casablanca. Air echelons of the fighter-type (P-39) flights went by surface transport to the United Kingdom and flew thence to Oujda, landing there early in January 1943. Air echelons of the bomber (A-20) flights left the United States early in November and flew to Oran where they remained in training until about 19 December. Early in January 1943 air and ground echelons of all four squadrons got together at Oujda, where on 10 January an aircraft redistribution gave the 111th and 154th Squadrons all P-39's and the 16th and 122d all A-20's. The latter two squadrons were employed on antisubmarine patrols from 24 December to 3 March, when their A-20's and crews were used to fill up the depleted 47th Bombardment Group. The 111th Squadron remained in cooperative training with the 2d Armored Division, and in February 1943 it was assigned to the defense of Oran. Only the 154th Squadron participated in the ground combat: it went to Youks-les-Bains on 21 January and served through the Tunisian campaign.[3] The 3d Photo Group established itself first at La Senia and then moved to Maison Blanche Airdrome, Algiers, on 25 December; on 5 January it was reassigned to Twelfth Air Force headquarters and on 27 January to the newly created Northwest African Photographic Wing.[4]

During December, while Allied forces battled to seize Tunis before the Germans readied their defense, the XII Air Support Command remained relatively inactive, engaged in administering air affairs in Mo-

rocco. On 6 January, however, the Twelfth Air Force attached the XII Air Support Command to the SATIN Task Force (II Corps) for combat operations, and after 13 January the command was in full support of the U.S. II Corps in its attack through central Tunisia. Axis counterattacks soon revealed the weakness of this principle of attaching air units to a ground command. During the three days following 20 January, for example, strong German blows threatened to dislodge the French XIX Corps, which requested observation missions. However, II Corps, which controlled XII Air Support Command, refused the request on the ground that it had no responsibilities or interest in the French sectors of the line.[5] Combat also revealed deficiencies in the capabilities of the observation squadron. During the Tunisian campaign the 154th Squadron made daily reconnaissance of areas and roads, normally with two P-39's which almost invariably required the escort of at least twelve fighters. Spot reconnaissance missions (found to be of more value than area coverage and far less expensive in sortie rates) were made by two P-39's, and later by two P-51's, one of the aircraft keeping watch and permitting the lead pilot greater attention to his reconnaissance. No night reconnaissance was possible because the XII Air Support Command lacked planes or pilots suited for the work. Photo aircraft were not available to the ground forces during most of the campaign, although for a while XII Air Support Command employed A-20's with fighter escort.[6]

Remedial action for the mistakes of tactical air doctrine would be taken in North Africa in the form of local command reorganizations,[7] and the coequality of ground and air forces was to be established within the U.S. armed forces by War Department Field Manual 100–20.[8] Experience in Tunisia had adequately demonstrated that: "The use of air forces in small packets is as disastrous in the battle area as it may be in the great world-wide picture."[9] As a token of their emancipation from ground force control the air support commands would be redesignated as tactical air divisions.[10] Finally, the experience in North Africa dictated a sweeping reorganization of observation aviation, and its final emancipation from ground force control.

Among the first concepts to be confirmed during the North African campaign was one which air force leaders already believed: observation or reconnaissance aircraft had to be ranked with the fastest fighter types available to the enemy. In order to keep escort to a minimum so that fighters could be used in their normal offensive role, Brig. Gen. Paul L. Williams, commanding XII Air Support Command, recommended the use of P-51's, modified for photography, normally flying their missions in pairs. He also required F-5's (P-38's) for photographic missions, together with laboratory equipment in the observation squadrons to develop and process the resultant photography.[11] Lt. Gen. Carl Spaatz specified that the tactical reconnaissance squadron "must be equipped with the fastest airplane in existence, normally the single seater fighter, and should be organized somewhat similarly to the old observation squadron, with their own photographic sections." Approximately eight planes in each squadron would have to be equipped with suitable cameras to meet the photographic requirements of the ground forces.[12] Maj. Gen. George E. Stratemeyer, visiting North Africa as Arnold's representative, thought that the equipment of tactical reconnaissance squadrons "should consist of our best and fastest type fighter aircraft." He thought that the P-51 would be "ideal" for the purpose.[13] Brig. Gen. L. S. Kuter, deputy air officer commanding Northwest African Tactical Air Force, wished his observation aircraft to be "very fast two-seaters (mosquito-type or better) or fast, able single-place fighters (P-51 type or better)." Kuter also had need of a two-place observation plane which could carry the cameras required to get the coverage desired by the ground forces, but he recognized that such a plane must be considered as an engineering objective and that his immediate needs must be met with high performance fighters.[14]

The North African campaign also carried

lessons regarding the tactical employment of observation. In the absence of an organized aircraft warning service and fighter control units, fighters had to accompany all reconnaissance aircraft. Reconnaissance flights had to be made in sweeps to definite objectives and direct return; search of general areas for general information was unproductive and a waste of air effort. Visual reconnaissance alone was unsatisfactory; it had to be supplemented by photographic reconnaissance.[15] The II Corps was especially critical about the lack of photographic reconnaissance available to it; one photographic group, and the laboratory facilities made available, was clearly not adequate to serve both air and ground.[16] Ground force estimates formed from the battle experience indicated that tactical air forces had to have approximately thirty photographic aircraft for each 100 miles of front, in addition to reconnaissance fighters.[17] General Spaatz had somewhat different opinions regarding the amount of aviation to be required for the ground forces; he thought that the number of squadrons would vary with terrain and local conditions but certainly would not exceed one squadron to each corps.[18] In North Africa the observation squadrons were employed individually; General Kuter therefore recommended that the group be disbanded and each squadron completely equipped for housekeeping and a high degree of mobility.[19]

Combat in North Africa demonstrated tactical reasons why observation could not expect to function when attached to ground commands. This system not only would lead to such a wide dispersal of air force units that the small number of aircraft available for each particular mission would accomplish little or nothing, but aircraft would also be idle when their services were urgently required on another part of the front.[20] Decentralized control would be hazardous, since observation flights had to be coordinated with fighter operations and preferably would have the benefit of aircraft warning services. Therefore, a commander had to coordinate both fighter and observation activities.[21] By the same token it was necessary to centralize the control of all photographic reconnaissance organizations. At the beginning of the Tunisian campaign the two principal aerial photo units were the 3d Photographic Group and the British 4 Photographic Reconnaissance Unit, controlled respectively by the Twelfth Air Force and the Eastern Air Command. This system produced duplication of effort and intelligence reports were "usually conflicting." In February 1943 the units were joined to form the North African Photographic Reconnaissance Wing, which achieved a high degree of efficiency at Algiers.[22]

Back in Washington on 9 February 1943 another of a long series of boards met on the subject of observation aviation. This board accepted the mission of observation as outlined in War Department Training Circular 36/1942, thereby closing its mind to the lessons of North Africa. The board nevertheless discussed the history of observation, inquiring closely as to whether there was a gap between AAF photographic aviation and observation aviation and deciding that the former was supposed to provide photographs to the ground forces showing hostile dispositions on the immediate front. The board agreed that all liaison aviation should be withdrawn from observation squadrons and made available to supported ground units. The subject of mixed versus homogeneous squadrons came up, and the board decided that a squadron with a single type of airplane would have enough advantages in simplified maintenance and supply as to make it preferable to a more versatile mixed squadron. The suitability of the B-25 for observation was discussed once more, and after an examination of the plane, the board found it suitable only for interim use until a multi-place, high-speed observation aircraft could be designed and produced. The board recommended that a group consist of two single-place squadrons (18 aircraft each) and two multi-place squadrons (12 aircraft each). Liaison squadrons (16 aircraft) should be organized according to need, independently of the

number of observation groups. The board's discussion digressed to a consideration of the psychological factor in changing the name of observation to "air support or reconnaissance," and the report suggested that: "It is evident that observation suffers from a psychological disadvantage in that this term, over a long period of time, has been associated with dearth of equipment and such low priorities as to prevent any progress." The value of changing the name was recognized, but the board recommended that no such action be taken until such time as "reconnaissance" could be assured of reasonable priorities for equipment and personnel.[23]

Coming at a time when observation was in the doldrums in the zone of interior and displaying obvious deficiencies overseas, the observation board's recommendations were well received. General Arnold directed the necessary action to segregate the three types of aircraft into three squadrons, thus eliminating the mixed or "bastard squadron" The Directorate of Air Support thought that a designation as "reconnaissance" would more aptly describe the function and would lift flagging morale. Of the AAF directorates only Plans entered a note of caution: the recommended allocation of 50 percent initial equipment to uncommitted reconnaissance groups might well give difficulty, especially since the AAF was having trouble securing the fighters and bombers it required to keep its 273 tactical group program on schedule.[24] Certain portions of the recommended action were nevertheless possible, and on 2 April 1943 the War Department directed the redesignation of all observation groups and squadrons as reconnaissance. Two of the squadrons in each group were redesignated as reconnaissance squadrons (fighter), one as a reconnaissance squadron (bombardment), and the fourth squadron in each group became known as a liaison squadron. Personnel allotment tables were included, but the new directive made no commitment of aircraft.[25]

But this reorganization was only the beginning. Immediately after the German surrender in Tunis, Brig. Gen. L. S. Kuter, deputy commander of the Northwest Africa Tactical Air Force, Lt. Col. John Dyas, commander of the 154th Observation Squadron, and Lt. Col. E. S. Biden, a South African Air Force staff officer of wide and varied battle and staff experience in the Western Desert and Northwest Africa Tactical Air Force, were summoned to the United States. They reached Washington on 18 May 1943.[26] Dyas and Biden were sent to the AAF Board at Orlando, Florida, where a reconnaissance subboard, headed by Colonel Minton W. Kaye, went to work on 9 June 1943 This board was directed to determine the requirement of AAF reconnaissance and photographic units as an integral part of the whole AAF program.[27] Now, for the first time, an emancipated AAF undertook a comprehensive, functional study of the problems which had long been tossed back and forth between the Air Force and the Army.

The AAF Board soon decided that all reconnaissance in theaters of operations fell into two categories. strategic reconnaissance, being reconnaissance of a theater as a whole and of aviation striking forces based within a theater; and tactical reconnaissance, or reconnaissance supplying the needs of ground forces and air forces in support of the ground forces. Strategic reconnaissance requirements were present in every theater and did not vary greatly; tactical reconnaissance was required only when ground forces were in combat or were preparing for combat. Tactical reconnaissance requirements varied: in the islands of the South and Southwest Pacific the air forces would be unifunctional, capable both of strategic operations or support of ground operations as was required. Such an air force needed a tactical reconnaissance group with sufficient tactical reconnaissance and photographic reconnaissance squadrons to support the ground arms in the theater. Large land areas, permitting employment of large ground forces in a war of maneuver, required a tactical air force, with sufficient tactical reconnaissance aviation to support the ground and air mission. The tactical air

force would also have interest in areas lying more distant than the interest of the ground forces; it would need more capability for photo reconnaissance missions. A tactical air force therefore had to possess both a tactical reconnaissance group and a tactical photographic reconnaissance group.[28]

The tactical reconnaissance group would comprise a headquarters, one photographic reconnaissance squadron, one long-range tactical reconnaissance squadron per army, and one short-range tactical reconnaissance squadron per corps, plus one short-range tactical reconnaissance squadron as reserve. The tactical reconnaissance portion of the group was to be equipped with aircraft permitting visual reconnaissance as the primary task and photography as a secondary task. This tactical reconnaissance also required aviation capable of high altitude photography, but because of the extremely high mobility required of these organizations, the capability of turning out large masses of photographic duplication and printing would be limited. The tactical reconnaissance group would generally be reserved for ground force use; it had to be trained to secure accurate information and to disseminate such information speedily to using organizations.

A tactical photographic reconnaissance group would complement the other group, and it would possess a headquarters, one photographic reconnaissance squadron, and a photo technical unit. The photo tech unit, stationed at a point sufficiently rearward to secure its relative immobility, would supply for the ground arms photographic reproduction service which was beyond the capacity of the photo squadron of the tactical reconnaissance group, but its primary mission would be to produce aerial photographs for targeting and bomb damage assessment and mosaics and map substitutes for the ground arms.

The board broached other subjects of importance. It recommended creation of an AAF headquarters staff section for reconnaissance which would occupy an equal status with bombardment and fighter aviation. The AAF had been managing reconnaissance under the Directorate of Air Support, and photography had been regarded as a technical service. As the board viewed it, reconnaissance was a tactical service transcending the scope of air support. As for personnel, it would be well to "start from scratch" and include no one formerly affiliated with air support and observation aviation. Fighter pilots should be encouraged to volunteer for reconnaissance, and the volunteers should be required to meet rigid requirements. Suitable aircraft should be developed and production lines established at modification centers to turn out reconnaissance versions of combat aircraft types.

When this comprehensive study was completed, General Kuter, now AC/AS Plans, recommended that it be laid before the Army Ground Forces for General McNair's "broad agreement." Kuter interjected: "no staff study and non-concurrence routine to be followed in this case." To prepare the ground for acceptance, Kuter visited the Army War College in mid-June and explained the projected program to the Army Ground Forces staff.[29] Despite Kuter's desire for more expeditious action the AAF Board study proposed such sweeping changes in the programming of units that it had to be submitted for coordination; it went to the Army Ground Forces on 8 July 1943 with a suggestion that "each day's delay may further postpone the availability of effective reconnaissance units in the combat theaters." On 30 July the Army Ground Forces finally responded, neither concurring nor non-concurring but generally choosing to sum up ground grievances regarding observation (or the lack of it) in North Africa. They found it difficult to comment advisedly until Field Manual 31–35 was revised, but they received an "impression of concern for the unity of the air forces, and the precedence of their interests, rather than a determination to promote the success of the decisive ground action, particularly that of the infantry." Moreover, centralized control under a tactical air force might not always be best; the channels of operation introduced might be so extensive and difficult as to impair the

"essential teamwork between ground forces and supporting air forces."[30] The Army Ground Forces thus evidently did not concur with the AAF Board study.

While the Ground Forces were writing their lengthy rejoinder, Kuter asked Arnold's permission to go ahead with the reorganization which he personally guaranteed would work and would amount to an improvement. In his characteristic fashion Arnold endorsed in his own hand: "General Kuter. OK—we cannot wait—we must have organization and personnel trained. Note: Tell CS we are going ahead. Can't wait. Why did we send it down?"[31] The reconnaissance study went on 29 July, to the War Department G-3, who approved the program outlined as a basis for planning and procurement. Although he pointed out that FM 100–20 made the AAF responsible for providing reconnaissance and photographic missions essential to the success of ground forces in each theater of operations, the G-3 was unwilling to give final approval to the program until he had considered such comments as the Army Ground Forces might submit.[32]

The AAF had already begun the action required to combine reconnaissance and photographic aviation under one head in a minor reorganization of its headquarters: reconnaissance branches were formed under Unit Training Division, AC/AS Training, and under Requirements Division, AC/AS Organization, Commitments, and Requirements. On 31 July 1943 the Third Air Force was directed to establish a Reconnaissance Command, charged with training all tactical and photographic reconnaissance units and operation of replacement training units for the crews of such units. All reconnaissance units in the zone of interior were to be assigned to the Reconnaissance Command. For the allocation of aircraft and materiel, reconnaissance units were given a priority second only to heavy bombardment.[33] On 18 August 1943 the III Air Support Command was redesignated the III Reconnaissance Command with its headquarters remaining at Birmingham, Alabama. Reconnaissance training wings were opened at Key and Will Rogers airfields.[34] On 28 August the I, II, and IV Air Support Commands were redesignated as the I, II, and III Tactical Air Divisions.[35] These tactical air divisions would be employed in maneuver training with ground forces.

During the last week of June 1943, General Kuter and Brig. Gen. Gordon P. Saville (the latter being the executive of the AAF Board) presented the reconnaissance program to General Arnold and his staff, carefully emphasizing its cost to fighter and other aviation branches. General Arnold accepted the cost.[36] The aircraft complementation agreed upon was as follows: photographic reconnaissance squadrons would be assigned 16 F-5 aircraft (P-38 models modified for photography by the removal of armor and armament and the installation of cameras in the nose section), the tactical photographic reconnaissance squadron would possess the same aircraft complement; the tactical reconnaissance squadron would be equipped with 18 F-6's (P-51's modified for reconnaissance). Variations in the assignment of aircraft would be permitted, and assignments of new aircraft to squadrons already operational in theaters would be gradual. Thus the Fifth Air Force would continue to operate B-25 and P-40 tactical reconnaissance squadrons. No separate development program was thought necessary for tactical reconnaissance, which would receive the best low-altitude fighter types, but photographic reconnaissance was thought to demand a specially designed plane which could meet and exceed the qualties of the best enemy fighters and possess a range in excess of the AAF's new very heavy bomber. A contract was therefore initiated with the Hughes Aircraft Company for expedited production of its new type D-5 (F-11) long-range photographic aircraft.[37]

A second over-all program regarding the activation and commitment of reconnaissance units to the theaters of operations through July 1944 was worked out, and Colonel Elliott Roosevelt and Lt. Col. Karl

Polifka (two officers who had been called to Washington to represent combat viewpoints) were sent to the European-Mediterranean and Pacific theaters to secure concurrence.[38]

The revised reconnaissance program was approved by General Arnold on 9 October 1943 and was immediately incorporated into the over-all AAF Program.[39] On 18 October the War Department Operations Division approved the flow chart of unit commitments to theaters.[40] These actions for the first time gave the AAF an integrated and functional program for reconnaissance aviation. When he approved the program, Arnold told Brig. Gen. A. B. McDaniel, whom he selected to head the III Reconnaissance Command, that "he expected to hear no more criticism from theater commanders and others regarding reconnaissance."[41]

Although reconnaissance had come of age in a clearly defined system which would benefit air and ground forces alike, its course would not be an easy one. In the winter of 1943, when Allied heavy bombers over Germany were suffering heavy losses to enemy fighters, the AAF had no choice but to cut back the modification of P-38J's and P-51B's as reconnaissance types. Although General McDaniel realized the validity of the reason for this action, he nevertheless protested the "continued rape of reconnaissance."[42] Despite these diversions, however, the AAF never wavered from its concept that reconnaissance aircraft in the battle area "must be the latest and hottest type fighters if the enemy has any strength in the air at all," and by January 1945 General Kuter was advocating the use of the AAF's first P-80 jets for photographic reconnaissance.[43] Unfortunately, the Hughes D-5 (F-11) long-range photographic aircraft never reached production,[44] and the AAF did not get the multi-place, specially designed plane which it needed for long-range flights and vertical photography. The failure to get this specially designed plane into operation bespoke the foresight of those AAF officers who had argued earlier that reconnaissance must utilize modified combat type aircraft.

Despite the initial ground force misgivings regarding the reconnaissance reorganization, the new system proved generally satisfactory once it was installed in theaters of operations. Without attempting a study of AAF reconnaissance aviation, it may nevertheless be appropriate to note a few statements by responsible ground commanders regarding the functioning of reconnaissance. By far the largest ground campaign of World War II was that waged during 1944-1945 on the continent of Europe, and it is perhaps significant that during this campaign three U.S. Army commanders expressed their approval of the reconnaissance system. In March 1945 Lt. Gen. Courtney H. Hodges, commanding the First U.S. Army wrote as follows:

> The existing procedure for tactical and photographic reconnaissance has resulted from long combat association of First Army and IX Tactical Air Command and is an eminently satisfactory one. Coverage of the Army area of responsibility has at all times been timely and thorough. The volume of photography is ample. The several Corps which have served with First Army have expressed complete satisfaction with results achieved.[45]

Lt. Gen. George S. Patton, Jr., commanding the Third U.S. Army, concluded his comments regarding reconnaissance with a similar expression of approval:

> Air reconnaissance performed by XIX Tactical Air Command has successfully provided Third US Army with timely and accurate information of the enemy in all its various and difficult operations. . . . The utmost has been achieved in the cooperation between ground and air . . . It would be extremely difficult to make general recommendations for improvement.[46]

In the course of his evaluation, Lt. Gen. W. H. Simpson, commanding the Ninth U. S. Army, observed:

> I am pleased with the spirit of close cooperation which has always existed between the XXIX TAC and the Ninth US Army. . . . It is my opinion that the time consumed in processing and delivering information and photographs to ground echelons has been reduced

to a minimum by the application of sound operational practices.[47]

It would appear from these comments that the reconnaissance establishment adequately met the needs of the ground forces. The value of reconnaissance to the air effort was well expressed by Maj. Gen. O. P. Weyland, commanding XIX Tactical Air Command:

> The ability of reconnaissance to cover thoroughly the Command's area of responsibility made possible the intensive employment of fighter-bombers in the portions of the area where the most remunerative targets existed The value of this was particularly demonstrated when XIX Tactical Air Command assumed the entire responsibility of covering Third US Army's right flank south of the LOIRE River during the Battle of FRANCE. . . . .
>
> The use of reconnaissance aircraft to locate and lead fighter-bombers directly to targets of opportunity made possible the most effective and economical use of fighter-bombers, eliminating much of their profitless search for targets and greatly increasing the destruction per mission. The effectiveness of this was strikingly evident in the ARDENNES bulge, particularly on 22 January 1945 when, with reconnaissance aircraft leading fighter-bombers to the targets, more than 1700 enemy motor vehicles were destroyed or damaged for the Command's record day of destruction.[48]

According to the Army Ground Forces history of the Air-Ground Battle Team, the procuring and distribution of large-scale photomaps was no longer a problem under the new system of reconnaissance; they were supplied adequately during the Sicilian campaign, abundantly in Italy, and adequately in ETO. In the campaigns of Normandy, France, and the Rhineland reconnaissance was provided generously, and the need for the ground forces for close-in vertical photographs was met. But it appears that many ground commanders remained distrustful of the system Getting intelligence photography through military channels to ground units in sufficient quantity and time for it to be used remained a matter of widespread and strongly expressed dissatisfaction on lower ground levels. Some ground force officers blamed the "cumbersome" machinery; others were suspicious that the air force used more than its share of reconnaissance effort upon such projects as bomb damage assessment. Many ground commanders are said to have "continued to urge that tactical reconnaissance squadrons be regularly attached or assigned to corps."[49]

CHAPTER V

LESSONS OF CURRENT APPLICABILITY

SINCE IDENTICAL SITUATIONS seldom reoccur, history teaches best by analogy. Thus a study of the passing of the control of observation aviation—that form of air support most intimately related to the ground effort—from the control of the Army to the Army Air Forces, and observation's eventual redesignation and reorganization as reconnaissance, holds several lessons applicable to any study of the command and control of other forms of tactical airpower.

The fundamental lesson lies in the sphere of organization, for it has been seen that the various reorganizations of observation prior to 1943 were primarily concerned with efficiency in administration rather than its tactical use and capabilities. Proceeding each time with a modification of what had been and seeking to remedy apparent deficiencies of an existing situation, the War Department slowly divorced observation aviation from ground force control. Division air complements were eliminated to increase the mobility of the ground arm. Air support commands were activated to improve the administration of observation squadrons and with some optimistic hope that the new commands would establish a proper tactical value when they were thrust into an operational situation. Subsequent statements of the mission and control of observation squadrons under the air support commands were piecemeal changes. War Department and Air Corps leaders during the 1930's also established what were in effect two systems of aerial observation: air units were to use reconnaissance aircraft, first of a bombardment and later of a fighter type modified for photography; ground forces would be provided with specially designed light and slow observation planes. At no time before 1943 was there a clear perception of the whole scope of reconnaissance. Progress toward organizational solution of the problem came only with clear identification of the reconnaissance mission and the capabilities of air power to fill it. Some progress was made with the identification of a type of aviation to be known as "liaison" in a move which freed observation from the unrealistic reliance upon light and slow aircraft. But the real progress did not come until 1943 when AAF planners, freed at last from the necessity of using their capability primarily to support the ground forces, swept away the old organization and erected a new and integrated system of reconnaissance which fully identified the mission and aimed at the maximum utilization of air capabilities for the best advantage of both air and ground in a complete war effort.

The experience of World War II clearly revealed the impracticability of compartmentalizing airpower. The metamorphosis of observation into reconnaissance represented an economy of strength in a combination of two force commitments, one seeking intelligence for the ground troops and the other for air units, into a single reconnaissance establishment under the tactical air force. Although the subject deserves further development which escapes a story limited to the study of observation, it may be also suggested that the real gain represented in the creation of the tactical air force was the integration of the old air defense and air support commands into one well ordered establishment, capable of either interception of enemy air forces or offensive employment against the enemy. The proposal of the Army to apportion one

group of tactical air to each infantry division and one wing to each corps has forgotten the requirement for the most economical employment of air strength which will always be available in amounts too limited to permit dissipation.

The whole trend in the reorganizations of observation, whether the changes were made at the suggestion of air or ground officers, was away from the assignment or attachment (operational control) of observation squadrons to ground organizations. The dictates of good administration and proper training demanded that the observation squadrons be removed from assignment to ground commands in 1941. The tactical experience in North Africa revealed the inefficiency, inequity, and danger of attaching "penny-packets" of observation and air support aviation to ground units. When the experience of North Africa showed that observation aircraft could not operate without fighter escort, it was mandatory that observation units should be placed under the control of an air commander who could coordinate observation missions with those of friendly fighters. Such lessons would appear equally applicable to the Army proposals that army commanders should have operational control over supporting tactical air units. The observation story clearly indicates that the assignment or attachment of air units to ground units was impracticable from the point of view of good administration or success in operations against an enemy.

Consideration of the search for an "ideal" observation aircraft, tailored to meet ground needs but utterly incapable of operating against enemy opposition, casts doubt upon the practicality of the X Corps suggestion in 1950 that: "Tactical air support aircraft should be designed for that primary function. . . . Most certainly the type of close support aircraft cannot be based on the presence or absence of enemy air." It has been seen that observation aircraft were originally designed for the accomplishment of a particular type of air effort. European combatants soon lost all of their specially designed slow and unarmored observation planes to enemy pursuit attacks, and fortunately U.S. Air Corps leaders perceived that the slow and unarmed observation planes could not live against enemy air opposition. But even the modified combat-type planes employed in North Africa could not operate without friendly fighter protection. The P-39 observation planes required at least one squadron of twelve fighters for escort, although the P-39 was a fighter with some promise of speed and self-protection. Employment of specially designed tactical air support aircraft would doubtless impose inordinate demands upon the Air Force for fighter escort or cover, especially in view of the X Corps dicta: "Air defense and air superiority should be the mission of other aircraft." And, as was the case in the long and ultimately fruitless search for an "ideal" observation plane, the designing of a special purpose tactical air support plane would be expensive in time, effort, and funds available for military development.

The story of observation aviation is one involving a consideration of the necessity for the transfer of those air units which were most intimately associated with the ground mission from the control of the Army to the Army Air Forces. There is an element of irony in the fact that these aerial intelligence squadrons were unable efficiently to perform their missions under ground command and that they were able to accomplish their duties only after ground and air had been recognized as independent equals. The story furnishes clear and unmistakable lessons regarding the most efficient ordering and control of tactical airpower.

Footnotes

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Bibliographical Note

The principal sources for this monograph have been given recognition in footnote citations. The principal collections used may nevertheless be noted.

Valuable for considerations of doctrine are the lectures and manuals in the Air Corps Tactical School collection of the Air Force Historical Archives. Information relative to the organization and problems of observation, especially during the period prior to 1941, has been found in the OCAC and AAF Plans Division files in the same repository.

Second only in value to the Air Force Historical Archives in the preparation of this monograph are the files deposited with the Departmental Records Branch, AGO, in Alexandria, Virginia. Utilized from this repository were the complete decimal files of the Directorate of Air Support, AAF. Selected files pertinent to observation maintained by the AAF and the Air Force Combat Command have also been of value.

A third repository of somewhat lesser importance to this monograph was the Kansas City Records Center, AGO, Kansas City, Missouri. Here the files of observation and photographic units engaged in the North African campaign were consulted and a few items of interest were extracted.

Glossary

AAF	Army Air Forces
AAFHS	Army Air Forces Historical Study
AAFRH	Army Air Forces Registered History
AAFSAT	Army Air Forces School of Applied Tactics
ACC	Air Force Combat Command (file designation)
AC/S G-2	Assistant Chief of Staff, Intelligence, WDGS
AC/S G-3	Assistant Chief of Staff, Operations, WDGS
AC/S OPD	Assistant Chief of Staff, Operations Division, WDGS
ACTS	Air Corps Tactical School
AFDMR	Directorate of Military Requirements, AAF
AFRAS	Directorate of Air Support, AAF
AFRDB	Directorate of Bombardment, AAF
AFRGS	Directorate of Ground-Air Support, AAF
AFSHO	Historical Office, AAF
AGF	Army Ground Forces
AGFHS	Army Ground Forces Historical Study
AOC	Air Officer Commanding
AWPD	Air War Plans Division, AAF
C/AAF	Chief of Army Air Forces
C/AC	Chief of Air Corps
C/AS	Chief of Air Staff, AAF
C&GSS	Command and General Staff School
C/S USA	Chief of Staff, U.S. Army
GHQ USA	General Headquarters, U.S. Army
D/O	Director of Operations
IGD	Inspector General Department
NATAF	Northwest Africa Tactical Air Force
OCAC	Office of Chief of Air Corps
OCAFF	Office of Chief of Army Field Forces
RAF	Royal Air Force
R&R	Routine and record sheet
SOP	Standing Operating Procedure
TAG	The Adjutant General, U.S. Army
TIG	The Inspector General, U.S. Army
T&O Div.	Training and Organization Division, OCAC
WDGS	War Department General Staff

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